

INDEX TO PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD

Stockham Pipe & Fittings Company,
Grey Iron Foundry
Birmingham Industrial District
4000 10th Avenue North
Birmingham
Jefferson County
Alabama

HAER No. AL-49-A

HAER
ALA
37-BIRM,
45A-

NOTE: Photographs AL-49-A-1 through AL-49-A-26 were taken by Jet Lowe, Fall 1993; photographs AL-49-A-27 through AL-49-40 were taken by Jet Lowe, Spring 1994.

- AL-49-A-1 EXTERIOR VIEW, LOOKING SOUTH, WITH AIR POLLUTION CONTROL EQUIPMENT (CENTER).
- AL-49-A-2 EXTERIOR VIEW, LOOKING NORTHEAST FROM THE CUPOLA (RIGHT) TO COKE BIN (LEFT), OF RAW MATERIALS YARD. FOUNDRY IRON IS MADE FROM SCRAP, NOT BASIC ORE. RAW MATERIALS ASSEMBLED, IN PILES, FOR SMELTING ARE AUTOMOTIVE SCRAP (CENTER), STRUCTURAL STEEL AND RAILROAD RAIL (RIGHT) AND LIMESTONE (LEFT).
- AL-49-A-3 INTERIOR VIEW, LOOKING EAST FROM THE CONTROL ROOM, TOWARD THE 82 INCH COKE-FIRED CUPOLA WHICH SMELTS THE ORE FOR FOUNDRY IRON. CUPOLA TENDER (LEFT) MAKES CERTAIN THE MOLTEN METAL FLOW REMAINS UNINTERRUPTED.
- AL-49-A-4 INTERIOR VIEW, LOOKING EAST FROM THE CONTROL ROOM, TOWARD THE GREY IRON CUPOLA WITH CUPOLA TENDER (LEFT) MAKING CERTAIN MOLTEN IRON FLOWS UNIMPEDED.
- AL-49-A-5 INTERIOR VIEW, LOOKING EAST FROM THE CONTROL ROOM, TOWARD THE GREY IRON CUPOLA WITH CUPOLA TENDER CHECKING THE TUYERE.
- AL-49-A-6 INTERIOR VIEW WITH CONTROL PANEL FOR CUPOLA OPERATIONS WITH GREY IRON CUPOLA FOREMAN, DAVID CAMP REDMAN. REDMAN IS A THIRD GENERATION STOCKHAM EMPLOYEE.
- AL-49-A-7 INTERIOR VIEW, LOOKING WEST, WITH GREY IRON HOLDING FURNACE AND AN IRON POUR IN PROCESS. MOLTEN DUCTILE IRON IS POURED FROM THIS 25-TON HOLDING FURNACE INTO LADLES FOR TRANSPORT TO CASTING STATIONS.

STOCKHAM PIPE & FITTINGS COMPANY,
GREY IRON FOUNDRY
HAER No. AL-49-A
INDEX TO PHOTOGRAPHS
(Page 2)

AL-49-A-8 INTERIOR VIEW, LOOKING WEST, WITH GREY IRON HOLDING FURNACES AND AN IRON POUR IN PROCESS, CUPOLA TENDER RICHARD SLAUGHTER SUPERVISING THE POUR. MOLTEN DUCTILE IRON IS POURED FROM THIS 25-TON HOLDING FURNACE INTO LADLES FOR TRANSPORT TO CASTING STATIONS.

AL-49-A-9 INTERIOR VIEW WITH CORES FOR VALVE MOLDING.

AL-49-A-10 INTERIOR VIEW WITH CORES FOR VALVE MOLDING. STOCKHAM EMPLOYEES REFER TO THESE CORES AS THE STAR WARS CASTINGS.

AL-49-A-11 INTERIOR VIEW WITH JAMES WILLIAMS INSIDE GREY IRON UNIT NO. 1 MOLDING CONVEYOR, AIR CLEANING A PATTERN AS IT SITS WITHIN A FLASK ON A MOLDING MACHINE PRIOR TO BEING FILLED WITH SAND FROM THE OVERHEAD CONVEYOR

AL-49-A-12 INTERIOR VIEW WITH JAMES WILLIAMS REACHING FOR THE SAND RELEASE LEVER WHICH WILL OPEN THE OVERHEAD STORAGE BIN AND PERMIT A SET AMOUNT OF SAND TO BE DEPOSITED INTO THE FLASK PRIOR TO COMPRESSION BY THE MOLDING MACHINE INSIDE GREY IRON UNIT NO. 1.

AL-49-A-13 INTERIOR VIEW WITH JOHNNY TAYLOR HAND LEVELING FRESHLY DEPOSITED SAND INTO A FLASK PRIOR TO COMPRESSION BY THE MOLDING MACHINE INSIDE GREY IRON UNIT NO. 1.

AL-49-A-14 INTERIOR VIEW WITH JOHNNY TAYLOR REMOVING A MOLD HALF FROM THE PATTERN ON THE MOLDING MACHINE, REVEALING THE CAVITY THAT WILL BE FILLED WITH MOLTEN IRON AFTER IT IS ASSEMBLED WITH THE OTHER MOLD HALF INSIDE GREY IRON UNIT NO. 1.

AL-49-A-15 INTERIOR VIEW WITH MOLD MAKING AND MAIN CONVEYOR, JAMES WILLIAMS.

AL-49-A-16 INTERIOR VIEW WITH MOLD MAKING AND MAIN CONVEYOR, JAMES WILLIAMS.

AL-49-A-17 INTERIOR VIEW WITH GREY UNIT NO. 1 MOLD CONVEYOR SHOWING CHAIN HELD WEIGHTS THAT TRAVEL AT THE SAME SPEED AS THE CONVEYOR AND REST ON COMPLETED MOLDS TO HOLD THE SAND SEAMS TOGETHER AS MOLTED IRON IS POURED INTO THE MOLD CAVITY.

STOCKHAM PIPE & FITTINGS
HAER No. AL-49-A
INDEX TO PHOTOGRAPHS
(Page 3)

AL-49-A-18 INTERIOR VIEW WITH IRON POURERS FILLING COMPLETED MOLDS ON GREY IRON UNIT NO.1 MOLD CONVEYOR WITH MOLTEN IRON FROM MOBILE LADLES AS THEY STAND ON WHAT USED TO BE A PLATFORM MOVING AT THE SAME RATE OF SPEED AS THE CONVEYOR.

AL-49-A-19 INTERIOR VIEW WITH IRON POURERS FILLING COMPLETED MOLDS ON GREY IRON UNIT NO. 1 MOLD CONVEYOR

AL-49-A-20 INTERIOR VIEW WITH IRON POURERS FILLING COMPLETED MOLDS ON GREY IRON UNIT NO. 1 MOLD CONVEYOR.

AL-49-A-21 INTERIOR VIEW WITH MOLTEN DUCTILE IRON BEING POURED INTO MOLDS

AL-49-A-22 INTERIOR VIEW WITH INTERIOR VIEW OF MOLDING SANDS CONTROL AND TEST LAB FOR UNIT NO. 2 GREY IRON DISAMATIC. SAND CASTING TECHNICIAN, ROY BATES, TESTS THE WEIGHT OF THE SAND, DRYs IT, AND WEIGHS IT AGAINST STANDARDS TO CALCULATE THE CORRECT MOISTURE NEEDED FOR DIFFERENT MOLDS. THE SAND MIX VARY WITH THE SIZE AND COMPOSITION OF THE CASTING.

AL-49-A-23 INTERIOR VIEW WITH UNIT NO. 2 GREY IRON DISAMATIC SETTING A 1 X 1/2 INCH ELBOW PIPE FITTING, A "GREY IRON EL." THIS MACHINE SETS CORES THROUGH AN AUTOMATED PROCESS.

AL-49-A-24 INTERIOR VIEW WITH UNIT NO. 2 GREY IRON DISAMATIC SETTING A 1 X 1/2 INCH ELBOW PIPE FITTING, A "GREY IRON EL," THROUGH AN AUTOMATED PROCESS.

AL-49-A-25 INTERIOR VIEW, UNIDENTIFIED MOLD MAKING ACTIVITY

AL-49-A-26 INTERIOR VIEW WITH CLEANING OF A 12 INCH FLANGE ELBOW CASTING. JAMES CRUMB USED A SWING FRAME GRINDER TO CLEAN (GRIND SEAMS FROM) THIS "EL."

AL-49-A-27 LAEMPE AUTOMATED COLD BOX CORE MAKING MACHINES IN THE GREY IRON FOUNDRY USE PRESSURE TO SET RESINS IN CORE SAND. THE ONLY EFFORT REQUIRED OF WORKERS IS TO CHANGE CORE BOXES AND REMOVE HARDENED CORE.

AL-49-A-28 CORE STORAGE AREA OF THE GREY IRON FOUNDRY SHOWING CORES THAT WILL BE USED TO CREATE INTERIOR WALLS OF SMALL BALL VALVES, FOREGROUND, AND LARGE GATE VALVES, BACKGROUND.

STOCKHAM PIPE & FITTINGS,
GREY IRON FOUNDRY
HAER No. AL-49-A
INDEX TO PHOTOGRAPHS
(Page 4)

- AL-49-A-29 DEPENDABLE FORDATH-SHELL CORE MACHINES IN THE GREY IRON FOUNDRY INJECTS SAND INTO A CLOSED CORE BOX. SOME OF THESE UNITS HEAT THE CORE BOX TO FIX THE RESINS AS THE CORE REMAINS IN THE BOX, OTHERS MERELY SHAPED THE CORE SAND REQUIRING BAKING OF THE CORES TO HARDEN THEM.
- AL-49-A-30 NATIONAL SHELL CORE MACHINE IN THE GREY IRON FOUNDRY AUTOMATICALLY INJECTS SAND INTO CLOSED, HEATED CORE BOXES THAT SET THE RESINS AND PERMIT A HARDENED CORE TO BE REMOVED BY THE OPERATOR.
- AL-49-A-31 PETIBONE SAND THROWING MACHINE BOX FLOOR GREY IRON FOUNDRY FORCES CONDITIONED MOLDING SAND, AT HIGH VELOCITY, INTO MOLDS TOO BIG TO BE MADE ON ONE OF THE CONVEYOR SYSTEMS.
- AL-49-A-32 LARGE LADLE, BOX FLOOR, GREY IRON FOUNDRY IS USED TO CARRY LARGE BATCHES OF IRON FROM THE CUPOLA AREAS TO THE LARGE MOLDS MADE ON BOX FLOOR AREA.
- AL-49-A-33 BENCH CORE STATION, GREY IRON FOUNDRY CORE ROOM WHERE CORE MOLDS WERE HAND FILLED AND OFTEN PNEUMATICALLY COMPRESSED WITH A HAND-HELD RAMMER BEFORE THEY WERE BAKED.
- AL-49-A-34 DESPATCH CORE OVENS, GREY IRON FOUNDRY CORE ROOM, BAKES CORES THAT ARE NOT MADE ON HEATED OR COLD BOX CORE MACHINES, TO SET BINDING AGENTS MIXED WITH THE SAND CREATING CORES HARD ENOUGH TO WITHSTAND THE FLOW OF MOLTEN IRON INSIDE A MOLD.
- AL-49-A-35 GREY IRON TUMBLERS, IN THE GREY IRON FOUNDRY ROTATE CASTINGS WITH SHOT TO REMOVE AND SURFACE OXIDES AND REMAINING EXCESS METALS.
- AL-49-A-36 LARGE MOLD MAKING MACHINE, GREY IRON UNIT #4 SHOWING PATTERNS THAT FLASKS FIT OVER PRIOR TO BEING FILLED WITH SAND AND COMPRESSED.
- AL-49-A-37 INTERIOR OF GREY IRON CUPOLA SHOWING REFRACTORY BRICK AND TUYERERS
- AL-49-A-38 SAND HANDLING UNIT #1, SHOWING TIMBER FRAMING OF ORIGINAL GREY IRON FOUNDRY SAWTOOTH ROOF.
- AL-49-A-39 GREY IRON CUPOLA CHARGER.

STOCKHAM PIPE & FITTINGS,
GREY IRON FOUNDRY
HAER No. AL-49-A
INDEX TO PHOTOGRAPHS
(Page 5)

AL-49-A-40 THIS TUMBLING MILL IN THE GREY IRON FOUNDRY IS
USED TO TUMBLE CASTINGS OVER EACH OTHER TO BREAK
OFF RUNNERS AND SPRUES.

INDEX TO COLOR TRANSPARENCIES

All color xeroxes were made from a duplicate color transparency.

Photographs were taken by Jet Lowe, Spring 1994.

AL-49-A-41 (CT) INTERIOR VIEW, LOOKING WEST, WITH GREY IRON
HOLDING FURNACE AND AN IRON POUR IN PROCESS.
MOLTEN DUCTILE IRON IS POURED FROM THIS 25-
TON HOLDING FURNACE INTO LADLES FOR TRANSPORT
TO CASTING STATIONS.

AL-49-A-42 (CT) INTERIOR VIEW, LOOKING WEST, WITH GREY IRON
HOLDING FURNACE AND AN IRON POUR IN PROCESS.
MOLTEN DUCTILE IRON IS POURED FROM THIS 25-
TON HOLDING FURNACE INTO LADLES FOR TRANSPORT
TO CASTING STATIONS.